



## Health Advisory: Drugs of Abuse Expected to Increase During “Made in America” Festival September 1, 2016

Since their inception, music festivals have been inextricably linked to the use of alcohol and drugs, and the *Made in America* festival on Labor Day weekend is unlikely to be any different. The Poison Control Center at The Children's Hospital of Philadelphia wants to make health care professionals aware of the clinical effects and management of drugs that may be encountered. The majority of these substances are not detected on standard urine toxicology screens. Clinical information about the most commonly used “club drugs” can be found below.

- 1) Synthetic Cannabinoids:** Also known as “K2” or “Spice”, synthetic cannabinoids have gained popularity in recent years with misguided promotion as a “legal” alternative to marijuana. No antidote is currently available. Note, the DEA has updated wording in almost all states that now categorizes all synthetic cannabinol derivatives as illegal.
  - a. Because the exact compounds contained in synthetic marijuana products change frequently, the type and severity of symptoms can be variable and unpredictable, but we often see two common clinical patterns:
    - i. Patients may appear sluggish and have some symptoms similar to an opioid overdose, such as: lethargy, confusion, respiratory depression, bradycardia, vomiting, seizures, or unresponsiveness.
    - ii. Patients may appear highly agitated and have symptoms similar to those of phencyclidine (PCP) use, including: tachycardia, hallucinations, aggressive behavior, paranoia or psychosis.
  - b. We've also seen some reports of acute renal injury, rhabdomyolysis and ST-elevation MI, even in patients with normal coronary arteries.
- 2) MDMA, Bath Salts, and Phenethylamines:** These compounds share a structure similar to catecholamines, amphetamines, and cathinones, with the most well-known being MDMA, also known as “Ecstasy” or “Molly”, followed by the so-called “bath salts” (synthetic cathinones). Some may trigger positive amphetamine screen.
  - a. Patients may present with agitation, hallucinations, nausea, vomiting, dizziness, diarrhea, headaches, body aches, depression, and confusion.
  - b. MDMA can cause inappropriate antidiuretic hormone release, which can result in potentially fatal hyponatremia and cerebral edema when combined with excessive water consumption while dancing at a music festival.
- 3) Hallucinogenic Mushrooms:** Hallucinogenic mushrooms contain psilocybin, which is structurally similar to LSD and are presumed to act at serotonin receptors. Patients may present with nausea, vomiting, diaphoresis, tachycardia, hyperthermia, hallucinations, and rarely with seizures.
- 4) Piperazines and Tryptamines:** Although not quite as common as the other substances, piperazines and tryptamines represent a class of mostly synthetic compounds, which are often abused for their hallucinogenic effects.
  - a. Piperazines are often combined with other drugs of abuse. Patients under the influence may present with insomnia, anxiety, tremors, diaphoresis, dizziness, palpitations, shortness of breath, confusion, paranoia, hallucinations, and in severe cases, seizures, QTc prolongation and hyponatremia. Serotonin syndrome is a risk if combined with other serotonergic agents.
  - b. Synthetic tryptamines are structurally similar to serotonin, and LSD is probably the most well-known of this class. They have been known to cause hallucinations, tachycardia, hypertension, mydriasis, agitation, excited delirium, psychosis, rhabdomyolysis and renal failure.

Treatment of agitation and restlessness with benzodiazepines is an acceptable and effective intervention. We advise caution when considering Haldol, or any other sedating antipsychotic administration. This class of medications can reduce seizure thresholds, reduce heat dissipation, cause EKG changes, precipitate dystonias and extrapyramidal symptoms, and complicate drug overdose management.

ED providers and staff in the hospitals serving the Philadelphia area should be aware of the adverse effects associated with these drugs. We would like to remind medical providers to report suspected or confirmed cases of poisoning (including overdose) by drugs or other toxic agents within 24 hours to The Poison Control Center at 1-800-222-1222. These reports are critical in detecting and preventing overdose outbreaks.